# Notebook, N-00-03-12

Phonograph Cylinders
Book # 3

John Clarence Shengle

Of #659 - 660 - 661 - 662 & 666
#661 is best and #662 next but not
as good as regular.
Both are gumming on the reamer, edges etc.

---

666 = 95% #651
3/12/00 5% Black Ceresin

---

667 - 90% #651
3/12/00 10% Blk Ceresin

---

668 85% #651
3/12/00 15% Blk Ceresin

---

669 95% #651
3/12/00 5% Japan wax

---

670 90% #651
3/12/00 10% Japan wax

---

671 - 40 g. Stearate Soda (7.80)
10 g. Stearic acid
3/12/00 30 g. rosin wg
20 g. Blk ceresin
5 g. Mg $CO_3$

Brittle, Hard, N.G.

672
3/12/00
40 g. Stearate Soda 7.80
10 g. Stearic acid
30 g. Wood tar pitch
20 g. Blk Ceresine
5 g. $MgCO_3$
Brittle, Hard, N.G.

---

673 -
3/12/00
40 g. Stearate Soda 7.80
10 g. Stearic acid
30 g. Burgundy ~~wood tar~~ pitch
20 g. Blk ceresine
5 g. $MgCO_3$

Brittle, not so hard & dry as 672 - N.G.

---

674 -
3/12/00
40 g. Stearate Soda 7.80
10 g. Stearic Acid
30 g. rosin wg
20 g. Paraffine 120
5 g. $MgCO_3$
Brittle, - ~~make large~~
~~cylinder~~ N.G.

675 – 40g. Stearate Soda 7.80
3/12/00 10g. Stearic acid
30g. Woodtar pitch
20g. Paraffine 120
5g. MgCO$_3$
Brittle

---

676 40g. Stearate Soda 7.80
3/12/00 10g. Stearic acid
30g. Burgundy pitch
20g. Paraffine 120
5g. MgCO$_3$
Fair – makes large

---

677 – 30g. Stearate Soda 7.80
3/12/00 10g. Stearic acid
35g. rosin wg.
25g. Paraffine 120
5g. MgCO$_3$
Fair – does not as good as 676

678 - 3/12/00

30g. Stearate Soda 7.80
10g. Stearic acid
35g. Wood tar pitch
25g. Paraffin 120
5g. $MgCO_3$
Brittle

---

679 - 3/12/00

30g. Stearate Soda 7.80
10g. Stearic acid
35g. Burgundy pitch
25g. Paraffin 120
5g. $MgCO_3$
Fair - mark large

---

680 - 3/12/00

30g. Stearate Soda (6.65)
10g. Stearic acid
35g. Rosin wax
25g. Best ceresin
5g. $MgCO_3$
Hard, brittle, N.G.

681 30 g. Stearate Soda 6.65
3/12/00 10 g. Stearic acid
35 g. mixed tarpitch
25 g. Bek Ceresine
5 g. $MgCO_3$

Hard, brittle - n.g

---

682- 30 g. Stearate Soda 6.65
10 g. Stearic acid
3/12/00 35 g. Burgundy pitch
25 g. Bek Ceresine
5 g. $Mg CO_3$

Brittle - n. g. Infl.
makes flanges.

---

683 - 25 g. Stearate Soda 6.65
3/13/00 5 g. Stearic acid.
Del 40 g. rosin wg.
30 g/ ~~P~~Paraffin 120
5 g. $Mg CO_3$

mark large

Fair

#684
3/13/00
25 g. Stearate Soda 6.65
5 g Stearic acid
40 g. wood tar pitch
30 g. paraffine 120
5 g. Mg $CO_3$
Fair - shavings not so dry

---

685
3/13/00
25 g. Stearate Soda 6.65
5 g. Stearic acid
40 g. Burgundy pitch
30 g. paraffine 120
5 g. Mg $CO_3$ -
Fair - better than 684

---

686
3/13/00
25 g. Stearate Soda 6.65
5 g. Stearic acid
40 g. rosin wg
30 g. Blk ceresine
5 g. Mg $CO_3$
Hard, brittle

120
40
20
140

687 25 g. Stearate Soda 6.6 1-
1 g. Stearic acid
3/13/00 40 g. wood tar pitch
30 g. Blk ceresine
5 g. $MgCO_3$
Hard - brittle n.g.

---

25 g. Stearate Soda 6.6 1-
688 1 g. Stearic acid
3/13/00 40 g. Burgundy pitch
30 g. Blk ceresine
5 g. $MgCO_3$
Brittle - gummy hardness

---

689 30 g. Mg resinate 100 : 1-
3/13/00 20 g. paraffin 120
N.G. - doesn't melt but when cool - fair - soft

690 30 g. Mg resinate 100 : 1-
3/13/00 20 g. Blk ceresine
N.G. no mix good.

691 10 g. Stearate Ca 100:8
3/13/00 15 g. Mg. Stearate 100:10
40 g. Rosin WG.
30 g. paraffine 120
5 g. $MgCO_3$
very hard to fuse
soft - gummy

---

692 10 g. Stearate Ca 100:8
15 g. Mg Stearate 100:10
3/13/00 40 g. wood tarpitch
30 g. paraffine 120
5 g. $MgCO_3$
fuses with difficulty
Very soft.

---

693 10 g. Stearate Ca 100:8
15 g. " Mg 100:10
3/13/00 40 g. Burgundy pitch
30 g. paraffine 120
5 g. $MgCO_3$
soft, sticky

694 10 g. Ca Stearate 100:8
15 g. Mg Stearate 100:10
3/13/00 40 g Rosin wg
30 g Bek ceresine
5 g. $MgCO_3$ gummy.
N. G. The Mg fails to enter.

---

695 20 g. Mg Stearate
10 g. Ca "
3/13/00 40 g. rosin wg
30 g. paraffin
5 g. Mg $CO_3$
gummy, soft - very

---

696 20 g. Mg Stearate
10 g. Ca "
3/14/00 40 g. rosin wg
30 g. Bek ceresine
5 g. Mg $CO_3$
Brittle - gummy.

2.60
50
3.00
60
6.70

[illegible]
50
2.40
6.50

697 20g Mg Stearate 100:10
50g. rosin
3/14/00 30g. paraffin 120
5g. Mg $CO_3$
Off.

---

698 30g. Ca Stearate 100:8
50g. rosin wg
3/14/00 20g paraffin 120
5g. Mg $CO_3$
Just fair

---

699 25g. Ca Stearate 100:8
5g. Stearate zinc 100:55
50g. rosin wg
3/14/00 20g. paraffin 120
5g. Mg $CO_3$

Not dry

For 700 – 799 see Book #2

---

#800 3/14/00
25 g. Stearate Soda 6.6 S
40 g. rosin wg.
30 g. paraffin 120
7 g. $MgCO_3$
Too waxy

---

#801 – 3/14/00
30 g. rosin, W.G. W.
20 g paraffin 125
2 g. $MgCO_3$

---

802 3/15/00
200 c.c. Soda sol.
18° B –
2 g. al.
400 g. Stearic acid

---

803 3/16/00
200 c.c Soda sol.
18° B.
3 g al.
400 g. Stearic acid

804 3/16/00
200 cc Soda sol.
18° B.
4 g. al.
400 g. Stearic acid

---

805 3/16/00
140 c.c. Soda sol.
18° B.
4 g. al.
soft. gummy s.g.
300 g. Stearic acid
200 g. resin wg.

---

806 – Master cyl.
3/20/00
1440 g. Rignocer.
~~410 g. Sal Soda~~
~~1500 g. Acetate Soda~~
200 g. Sal Soda

Stearate soda used in
807-808-809-811-812-813-
814-816

700 grs. Stearic Acid
154 g. Sal Soda

807
3/20/00
50 g. Stearate Soda
300 g. B. pitch
20 g. paraffine 125 –
5 g. Mg $CO_3$
no perceptible contraction
fair to ream etc

808
3/20/00
40 g. Stearate Soda
35 g. rosin wg
25 g. paraffine 125 –
5 g. Mg $CO_3$
no perceptible contraction
fair to ream etc

809 40 g. Stearat Soda
3/21/00 35 g. B. pitch
25 g. paraffine
5 g. $MgCO_3$

N.G. Very soft - takes at least 2 hrs to harden

---

Master Cyl.

810. 600 g. Stearic Acid
3/20/00 240 g. Acetate Soda
40 g. Stearate Al.
120 g. Carnauba

811 40 g Stearate Soda
3/21/00 35 g Burgundy pitch
25 g Be16 ceresin
5 g $MgCO_3$

Very hard to mould
takes a long time to harden.
very gumming on seaming &
edging and shaving

---

812. 30 g Stearate Soda
40 g. resin wg.
3/21/00 30 g. paraffine 125
5 g $MgCO_3$

N.G.
Too long to harden

" 813 30g. Stearate Soda
3/21/60 40g. wood pitch
3/22/60 30g. paraffine 125-
5g MgCO3
Can't Mould

" 814 30g. Stearate Soda
3/21/60 30g. paraffine 125
3/22/60 40g. Burg. Pitch
5g MgCO3

" 815 30g Stearate Ca 100.8
3/22/60 50g. rosin wg.
20g. paraffine 125
5g MgCO3

480
40
200
36
7.56

---

#816 3/22/00
40g. Stearate Soda
35g. Resinate Ca 200:5
25g paraffine 125
3g. $MgCO_3$

alright on edger etc

---

#817 3/22/00
~~4~~0g. Stearate Soda
30g. Resinate Ca 200:9
30g. paraffine 125
3g $MgCO_3$

pretty good on edger etc

---

#818 3/23/00
50% #801
50% #802

nice contraction
It cools first and then takes a long time to ~~harden~~ solidify before being hard enough to take out of mould

819 60% #801
3/23/00 40% #803
See #818 - much harder to filter
middlin - Gummy.

---

820 70% #801
3/23/00 30% #802
See #819 ditto

---

821 75% #801
3/23/00 25% Stearate Al.
Rather hard to mix. Will
not melt to a homo. fluid

---

822 50% #801
3/23/00 50% Regnocer
very gummy on edges etc

823 58% # 801
3/23/00 15% Bur. Pitch
[illegible] 10% paraffine 125
25% St. Zinc

---

824 68% # 802
3/23/00 24% rosin wx
N.G. streaky 8% par. 125
coarse grained

---

825 68% # 802
3/23/00 N.G. 24% B. pitch
coarse 8% par. 125

---

826 68% # 802
3/23/00 Orig. 24% wood tar pitch
8% par. 125

827 60% " 802
3/28/00 M/P 30% Rounding
Sticky 10% par. 125

---

828 60% " 802
3/28/00 M/P 30% Bespatch
Sticky 10% par. 125
Cone

---

829 60% " 802
3/28/00 V ~~30%~~ 20% Rounding
20% par 125

---

830 60% " 802
3/28/00 V 20% 13 pitch
20% par 125

Father med Contradiction

831 600% " 80 2
3/23/00 ~~[illegible]~~ 80 Wood & Purce
200% par 12 5

---

832 ~~150%~~ " 80 2
3/23/00 30% Rosendwig
200% par. 12 5

---

833 ~~Ca~~ 150% " 80 2
3/23/00 ~~30%~~ [illegible] purce
200% par 12 5

---

834 ~~150%~~ " 80 2
3/23/00 30% W. & P.
200% par 12 5

835 36% #802
3/23/00 48% Rosin ww
16% par 125

836 36% #802
3/23/00 48% B. pitch
16% par 125

837 36% #802
3/23/00 48% W. J. P.
16% par 125

838 60% #803
3/23/00 35% Rosin oil
25% par 125

839 60% #803
3/23/00 25% B. Pitch
15% Tar 125

---

840 50% #803
3/23/00 30% Rosin WG
20% Tar 125

---

841 50% #803
3/23/00 30% B. pitch
20% Tar 125

---

842 50% #803
3/23/00 30% Rosin WG. P.
20% Tar 125

84-3
3/23/00
40% #803
35% Rosin wax
25% par 125

---

84-4
3/23/00
40% #803.
35% B. Pitch
25% par 125

---

84-5
3/23/00
~~40%~~ 30% #803
~~30%~~ Rosin wax
30% par 125

---

84-6
3/23/00
40% #803
30% B. Ptch
30% par 125

847 40% #803
3/23/00 30% W.T.P.
30% par 125

---

848 30% #803
3/23/00 [illegible] Rounding
30% par 125

---

849 [illegible]% #803
3/23/00 40% B. pitch
30% par 125

---

850 [illegible]% #803
3/23/00 [illegible]% Rosining
25% par 125

---

851 30% #803
3/23/00 45% B. Pitch
25% par 125

#807 - 808 - 816 - 818 - 822
849 - 854 - 855
#819 and "855 best but not as
loud as regular

---

852 60% " Sox
3/28/00 30% Rosin wg
10% Par. 130
very gummy in reamer, edger & trimmer

---

853 ~~10~~ 60% " Sox
3/28/00 30% Rosin pitch
10% Par 125-

---

854 60% " Sox
3/28/00 20% Rosin wg
very gummy. 20% Par 125-

---

855-Med 60% " Sox
3/28/00 Amberite 20% M.T.P.
very gummy in reaming 20% par 125-

---

856 50% " Sox
3/28/00 35% Rosin
10% par 125-

857 - 40% # Sort
3/23/00 20023 45% Rosin wg
15% par 125

858 3/20 40g. # Sort
20/r 48g. Rosin wg
3/23/00 March 16g. par 125

859 3/20 38g. # Sort Sticky
5g. Rosin wg
3/23/00 17g par 125

860 40g. # Sort
3/23/00 42g. Rosin wg
18g par 125

861 37g. # Sort
[illegible] Rosin wg
3/23/00 14g par 125

862 — 35 g # 804
3/23/00 55 g Rosin wg
10 g par 125

---

863 30 g " 804
3/23/00 53 g Rosin wg
11 g. par 125

---

864 34 g " 804
3/23/00 53 g Rosin wg
11 g par 135
2 g $MgCO_3$

---

865 34 g " 804
3/23/00 53 g Rosin wg
11 g par 125
2 g $MgCO_3$

866 32g # 804
3/23/00 Cons 3g Round wg
12g
11g par 125–
4g $MgCO_3$

---

867 30g # 804
3/23/00 R 32g Round wg
Lard 1g par 125–
Glob 6g $MgCO_3$

---

868 38g # 804
3/23/00 52g Grain wg
12g par 125–
8g $MgCO_3$

870 - This solution was filtered - the material on the filter dissolved in alcohol and the alcohol evaporated off. The residue is resinous and black - sticky + soft.

869.
3/28/00
Digested grease wood #4 with water

---

870
3/28/00
Digested grease wood #4 with NaOH sol.
The sol. becomes brown, on addition of acid the sol. first changes to green then to coffee + cream color and finally reddish which is perm. nothing separates out. The odor is strong resembling ~~of a coffee~~ fresh, stronger smelling odor of hippuric acid

871
3/28/00
Digested grease wood #4 in Soxhlet Extractor with Chloroform for 3 Hrs.
35 gr roots used
10% or 3.6 g. of a resinous mass obtained.

se # 899

872 - 3/29/00

Digested grease wood + with milk of lime. For a period of 6 hours. Then filtered off the woody material, Decomposed any lime salt and dissolved the excess of lime with HCl - then filtered. Dissolved the stuff on filter in alcohol + evaporated off the alcohol. The residue dark in color and similar to #870 but more fluid and sticky. After a period of 10 days - a crystalline mass appeared

873 - 3/29/00

Treat the stems - 20 g. of grease wood #4 with chloroform in Soxhlet Extractor for 5 hours. The Stems were well pounded in a porcelain mortar.

The residue after the Chloroform had been distilled off weighed 5.5 g. or 27.5 %. Dark in color - a heavy sticky resinous fluid.

See # 901

874 - 3/30/00

Treated 20g stems of Grease wood #4 in Soxhlet Extractor with Carbon bisulphide for 5 hours. The stems were well bruised in a porcelain mortar first. The residue after $CS_2$ had been distilled off weighed 3.1 g. or 15.6% Lighter in color than #873. Less fluid but sticky & resinous.

875 3/31/00

Treated 20 g. Stem, were bruised in porcelain mortar in Soxhlet Extractor with Ether for 4 hours, Then distilled off the ether. The residue weighed 4 grs. or 20%. The material has the general appearance of # 873.

876 4/2/00

Treated 20 g. of stem of grease wood 4 - from New Mexico in Soxhlet Extractor with Benzol for 4 hours. The stems were well bruised. The Benzol solution was then evaporated and the residue weighed 3 g. or 15%. The general appearance like the others

see # 881

877 4/20/00

Boiled some well bruised stems of grease wood in alcoholic solution of $NaOH$ in a flask connected with a return condenser for 3 hours. The liquid i-e – the alcoholic soda solution, has a very dark color and a pyridine like odor after filtering. The alcohol was evaporated off, the soda solution decomposed with 5% $H_2SO_4$ and the whole filtered through a paper filter, everything appears to go through. The color and odor somewhat the same as # 870. This liquid mass then heated with $CS_2$ in separatory funnel – $CS_2$ evaporated off without separation & the whole boiled with water.

#878 4/2/00

Upon looking at #872 today there appeared to be a separation - one substance is black and sticky while the other appears to be a colorless oil. Warmed up this and then tried to filter off the black material by means of cheese cloth. This does'nt appear to take out of the black matter. Thought that by dissolving it in alcohol and then filtering through paper might work but the black also dissolves. Upon evaporating off the alcohol the residue is a grayish white solid, when cool it becomes dirty looking and mushy as if it had taken up moisture

4/7/00. The above has crystallized out in long radiating crystals

#879 4/2/00

Tried to saponify #873 with Caustic soda. Saponification takes place - The resulting compound is a thick liquid dark in color.

#880. 4/3/00

Treated 100 g. crushed grease wood - stems & roots - in hot milk of lime containing 100 g. lime for 8 hrs. Filtered through cheese cloth after decomposing with acid, a good strong squeezing was resorted to in order to squeeze through the cloth any oil or resin. A portion of this was treated in a flask connected with a return condenser with benzine. This separated in a separatory funnel and the benzine evaporated. The residue was light in color small in amount and very sticky.

881 4/3/00

The material in #877 that had been subjected to extraction, being very mushy was boiled with water. Then filtered through paper filter. Treated to carbon bisulphide in separatory funnel. Nothing appeared to be extracted, however upon evaporating off the carbon bisulphide, there remained a very small quantity of light colored matter, greasy and paint like.

The water, carrying over the oil and after separating the oil requires 3.3 n $Na_2CO_3$ sol. to neutralize or .1649 g. $Na_2CO_3$ or .097 g $Na_2O$ for 100 c.c. of the water distillate, showing presence of volatile acids.

See #900
#902

882 4/5/00

Distilled 50 g. crushed grease wood with water. Used about 1000 c.c. water. A small quantity of oil came over.

883 4/5/00

Distilled the same stem as in #882 with 5% solution $H_2SO_4$, more of the oil comes over - towards the end when the heat is raised, the oil is colored brownish.

1% volatile oil

#884 4/5/00

Digested 100 g. crushed stems of grease wood in a Soxhlet Extractor à la Shingle with carbon bisulphide. Yield was 10 gr. resinous matter, this was distilled alone, per se, in a small porcelain retort. apparently nothing distilled excepting part of the solvent still contained in it. Upon evaporating the distillate, a substance similiar in appearance to the original remained.

The residue in retort has a very disagreeable odor but appears to be of thicker consistency than original, black in color.

8185 4/6/00

Distilled, dry, 100 gr. - crushed stems + roots of guam wood in iron retort with naked flame. A liquid came over smelling strongly of burnt wood and holding particles of carbon in suspension. This was filtered through cheese cloth and then shaken with carbon bisulphide in separatory funnel - a black disagreeable smelling, somewhat inclined towards oily liquid remains.

resembling the odor when fish + sawdust are distilled

Creosote

#886 4/7/00

Distilled the material that had been exhausted with $CS_2$ in an iron retort with naked flame. A liquid similar to #885 comes over. The carbon is filtered off and the filtrate treated with Ether in separatory funnel.

a – the residue after Ether evaporates is a dark – disagreeable pungent smelling oily liquid

b Then with Benzol.
Pure black – some what like the first (a)

c Then with Chloroform
darker in color than Ether (a) thicker and not so strong smelling

d Then Benzine – Nothing taken out.

e – Then $C S_2$

f – Then gasoline

Probably all creosote

#887 - Master cylinders.
4/9/00 99% Reg.
1% Carnauba

#888
4/9/00 95% Reg.
5% Carnauba

889
4/9/00 93% Reg
7% Carnauba

890
4/9/00 90% Reg.
10% Carnauba

---

891
4/9/00 85% Reg
15% Carnauba

---

892
4/9/00 75% Reg
25% Carnauba

893
4/9/00 75% Reg.
10% Carnauba
15% Spermaceti.

894 75% Reg
4/9/00 15% Carnauba
10% Spermaceti

895 65% Reg.
4/9/00 25% Carnauba
10% Spermaceti

896 75% Reg.
4/9/00 15% Carnauba
10% Stearic acid

897
4/9/00

99% Reg.
1% Manilla Gum XXXX

The gum will not dissolve

---

898
4/10/00

Grease Wood

Placed 50 grs in Extractor moistened with $NH_4OH$ and then extracted with ether.

10% Extracted - the extracted material is very fragrant and more liquid & oily, not so resinous but sticky.

899— Grease wood
4/10/00 Benzoic Acid in it?

Dissolved the crystalline ppt # 872 which I think is Benzoic acid in hot water to recrystallize—

Took 10 grs bruised stems and treated them with slaked lime by boiling

900 4/10/00

Tested distillate-water in #3 with $BaCl_2$. - no ppt

Conc. the entire distillate by redistilling - if volatile acid is in it - it will readily be carried over with steam.

Then treated conc. distillate with following reagents:- $CaCl_2$, $CuSO_4$, $NH_4CNS$. $K_4FeCn_6$, $K_3FeCn_6$, $K_2CrO_4$ $SnCl_2$, $(NH_4)_2CrO_4$, $NH_4Cl$, $HgNO_3$, $PtCl_4$ $U(C_2H_3O_2)_4$.

None gave a ppt in the cold.

In the hot, $K_4FeCn_6$, $K_3FeCn_6$ and $HgNO_3$ gave a slight turbidity while the odor of prussic acid was noticable in the two former.

901 4/15/00

Treated the Extracted material obtained in #874 with the following solvents

a - alcohol. - Filtered off insol. portion Then melted it plat. lid - a resinous solid - sticky.

b - Ether - Completely soluble - filtered through animal charcoal - no change

c - $CS_2$ - Completely soluble

d - Benzol - completely soluble

e - Benzine - very little

f - gasoline - very little,

g - water - apparently nothing

h - Kerosene - very little.

902: 4/11/00

Treated the stem left after #883 with the following solvents successively. allowed each 1 hr.

903 - 4/11/00

Petroleum - nothing extracted

904 4/11/00

Gasoline - nothing extracted

905 - 4/11/00

Benzine. - takes out a colorless oil which dries up upon standing exposed.

906 4/11/00

Alcohol - a black liquid resinous mass which upon standing separates into an oil and a resinous body.

907 - 4/11/00

Benzol.

Not so unlike # 906 but about $\frac{1}{4}$ the quantity and not so black

908 4/11/00

Carbon bisulphide -

Small quantity of light colored sticking mass which dries up to a gum like body

---

909 4/11/00

Ether

a substance that dries up to a sticky oily powder

---

910 - 4/11/00

Chloroform

Similar to #908 but not so gummy.

911 - 4/11/00

Acetic Ether.

Somewhat like in appearance #907 but more oily and yet unlike " 906

912 4/11/00

Moistened with ammonia and then extracted with Ether.

The ether then extracts nic.

Special cylinder for Urush

#913 - 240 grs Syrian asphalt
4/17/00 18 g Soda (caustic)
12 g Carnauba

---

#9.14 250 pts carnauba
4/18/00 1 pt soda (caustic)
175 Syrian asphalt
very brittle & hard - difficult to shave.

---

#915 95% #914.
4/19/00 5% Paraffine

---

#916 95% 914.
4/19/00 5% Ceresine

917 95% #914
4/19/00 5% Japan wax

---

918 90 pts Syrian Asphalt
4/19/00 100 pts Carnauba
3 pts Caustic Soda

very thick - not as brittle as #914

Gives good record but scratchy

---

919 90 pts Syrian Asphalt
4/20/00 150 pts Carnauba
3 pts Caustic Soda

920
4/20/00
200 pts Carnauba
100 pts Syrian Asphalt
10 pts par. 130

---

921
4/20/00
100 pts Carnauba
100 pts Syrian Asphalt
20 pts par 130

---

922
4/20/00
100 pts Carnauba
150 pts Syrian Asphalt
20 pts paraffine 130
Sticks to mould when pressed

923 - 100 pts carnauba
4/20/00 200 pts Syrian asphalt
25 pts paraffin /30

---

924 30 pts Syrian Asphalt
4/24/00 1 pt Caustic Soda
40 pts Carnauba

---

925 30 pts Syrian Asphalt
4/24/00 1 pt. Caustic Soda
60 pts Carnauba

926
4/24/00

30 pts Syrian Asphalt
1 pt Caustic Soda
70 pts Carnauba

---

927
4/24/00

30 pts Syrian Asphalt
2 Caustic Soda
40 Carnauba

Stearic Acid 700 pts
Soda 154 pts
Used in 928-929-930.

---

Cheap Wax

#928 70 pts Stearate Soda
71/00 3 " Mg Co
1 pt Carnauba
20 " Crystal wax
10 " paraffine

---

929 70 pts Stearate Soda
7/00 3 " MgCO3
1 " Carnauba
1 pt oleic
20 rosin wax
10 Crystal paraffine

#930 - 40 pts Stearate Soda

5/7/00 35 " Res. Ca. 200:10

25 " paraffine

2 " $MgCO_3$

---

931 added Paraffine to

5/14/00 a naphthaline solution of resinate of iron. This did as expected - threw out the resinate of iron and would not dissolve in it or with it.

932
5/14/00 Added flowers of sulphur to a mixture of Stearic acid and W. W. rosin
the sulphur dissolves but the mixture is a soft sticky mass

---

933 added flowers of sulphur
5/14/00 to ~~a mixture of Stear~~ melted rosin W. W.
Any amount of sulphur goes in - see #937 etc

934
5/14/00 Added Flowers of Sulphur to Naphthalin.

No action whatever

935
5/14/00 Sulphur to Stearate of Soda 700:154

Action very slow and scarcely 3% was absorbed during the entire afternoon

936
5/14/00

Sulphur to Regnocer.

The note under #935 applies here. In both cases the color became quite dark.

---

937
5/15/00

Rosin with various % of Sulphur.

100% Sulphur
5 % "
15 % " Sticky
20 " "
25 " "
30 " "
35 " "
40 " " best
45 " — N.G.

938
5/15/00 Burgundy pitch & Sulphur.

Sticky

939
5/16/00 Sulphur & paraffin

5% Sulphur

10%

The sulphur slowly dissolves but the resulting compound is indifferent to resinate of iron in both cases.

940 Sulphur & Ceresine
5/16/00 5% Sulphur
10% "

The sulphur and remnants of iron are indifferent in both cases.

---

941 Sulphur & Blk ceresine
5/16/00 5% Sulphur
5/17/00 10% "
15% "
20% "
25% "
30% "

Sulphur does not chemically combine.

It comes out upon standing

942
5/17/00 50% #937 - 35%
50% Stearate Soda) 00:152

---

943
5/17/00 60% F937 - 31%
40% Stearate Soda) 00:152

944 40% #937-35
5/17/00 60% Stearate Soda

---

945
5/17/00 5g resinate of iron
added to #941-10%

The sulphur comes
out upon standing

946
5/17/00 10 g humate iron
added #941 - 15g.

See ← 945

---

947
5/17/00 15 g humate iron
added to #941 - 20g.

See ← 945

948
5/18/00 Castor oil & sulphur.

The oil darkens in color but other wise there is no change.

---

949
5/18/00 Linseed oil & sulphur

darker, apparently no Chemical reaction.

950
5/18/00 Oleic acid & sulphur

Acid darker & thicker

---

951
5/18/00 Cottonseed oil & sulphur

No change, oil has in suspension golden crystals which resemble sulphur.

952
5/18/00 Rosin & liver of sulphur

Sticky - about the same as with plain sulphur

---

953
5/18/00 Rosin & sodium penta sulphide.

very hard to react & very slow if any reaction, otherwise same as #952

954 Syrian Asphalt & sulphur
5/18/00

The Syrian asphalt has most too high a melting point although the sulphur apparently enters. See # 958

---

955 Syrian Asphalt & lots
5/18/00 of sulphur

See # 954 then
#959

956 Syrian Asphalt &
5/18/00 Sodium pentasulphide

See # 954

---

957 Rosin oil & sulphur
5/18/00

Oil much thicker
and no rosin smell at
all. - darker

958.
5/18/00

50 pts Syrian Asphalt
50 pts Carnauba
5 pts Sulphur.

Melting point [illegible]

---

959
5/18/00

50 pts Syrian Asphalt
50 pts Carnauba
5 pts liver Sulphur

Apparently no Change

960
5/18/00 75 pts Carnauba
50 pts Syrian Asphalt
5 pts Sulphur

---

961 linseed oil + liver of
5/19/00 sulphur

Stiffer than 949 otherwise
unchanged

962 linseed oil + sodium
1/19/00 pentasulphide

See # 961

---

963 Castor oil + liver of
1/19/00 sulphur

No different than
# 948

964 Castor oil + Sodium penta
1/19/00 Sulphide

No reaction.

---

965 Rosin oil + Liver of
1/19/00 Sulphur

Thicker than #957

966 Rosin oil + Sodium
5/19/00 penta sulphide

No Change

---

967 Cotton seed oil
5/19/00 + liver of sulphur

No Change

Cylinders for mould

968.
1/21/00
90 pts Syrian Asphalt
100 pts Carnauba
3 " Caustic Soda
5 " paraffin

---

969
1/21/00
90 pts Syrian Asphalt
100 " Carnauba
3 " caustic Soda
5 " black ceresin

970 90 pts Syrian Asphalt
1/21/00 100 " Carnauba
3 " Caustic Soda
20 " Stearate Soda 700:150

---

Cheap wax

971 50 pts Syrian asphalt
1/21/00 50 " paraffin
5 " Sulphur.

The asphalt + paraffin will not mix. before the melting point of the asphalt is reached - the paraffin volatilizes and what little is combined is unaffected by the S.

972 50 pts Syrian asphalt
5/21/00 50 pts paraffine
5 " liver of sulphur

See # 971

---

973 50 pts Syrian asphalt
5/21/00 50 " paraffine
5 " , sodium penta sulphide

See # 971

974 50 pts Bitumen
5/21/00 50 pts paraffine
5 " Sulphur

975 400 g. [illegible]
5/22/00 " Stearate Soda 700:112

a - 40 The fault here is that
b - 80 the mixture cools before
c - 120 solidifying
d - 160
e - 200

f - 20 g. Stearate Alumina

g - 10 g. paraffine

c - d - e - f and g best.
inclined to be more sticky
than others

976 400 g. [illegible]
5/22/00 Paraffin

a- 20 g
b- 40 g
c- 60 g.

d- 20 g Mg Stearate 100:10
e = 20 g. Carnauba
f = 20 g. Syrian Asphalt
g = 5 g Caustic Soda

d - e - f and g are
[illegible]

977 400 g [illegible]
5/27/00 Creme White.

a - 20
b - 40 - not homogeneous.
c - 60

d - 20 g resinate iron
very frothy
e - 20 g Stearate Zinc 100:55
f - 10 g carnauba

c - e and f are best
but a trifle too soft

978 400 g [illegible]
5/27/00 Blck Ceresine
40
60

Blck ceresine is n. g. to be used — the [illegible] itself being inclined to froth also the Blck. ceresine. the resulting mixture is one large froth Hence must leave Blck ceresine out entirely.

979 400 g. Cpp pumorosin
5/22/00 Regnocer

a = 40 g.
b = 80 g.
c = 120 g
d - 160 g.
e - 200 g
f = 240 g.

980
5/22/00 300 g Copper rosin
150 g Stearate Soda 700:150
Stearate zinc

a 20 g
b - 40 g
c = 60 g
d = 80 g

Up to #981 with including Opoponax the resulting mixtures about the same. Cutting nice and shavings apparently dry - but becoming sticky if allowed to remain in the fingers - the wax is somewhat brittle and at times tenacious, depending upon the temperature - a slight increase of temperature causing stickiness.

#982 - #991 are a few that appear

981 400 g. Opoponax
5/22/00 Rigcylvan

~~981~~ - a 40g -
b = 80 g
c = 120 g.
d - 160 g.
e = ~~200~~ g.
f = 240 g

best but with the faults mentioned above. Cylinders will be made and a list given them for scratchiness [illegible].

An attempt will be made to overcome this liability to change with any rise of temperature by dosing with different gums etc. A mixture of Stearate Soda and Copperosin will be used as base as that mixture has a fine melting point.

982 5/22/00
400 g. Copperorosin
120 g. Stearate Soda 700:154

---

983 5/22/00
400 g. Copperorosin
160 g. Stearate Soda 700:154

and less liable to froth than the others.
If the temp of the Copper-rosin be raised
above 150° C. frothing commences ~~with~~ accompanied by
decomposition which is noticeable by the
strong odor of $H_2S$ $CS_2$ and the sulphur
compounds of carbon and hydrogen besides
volatile organic sulphur.

---

984 400 g. Copper-rosin
1/27/00 200 g. Stearate Soda 100:154

---

985 400 g. Copper-rosin
1/24/00 60 g. paraffin
20 g. Stearate Mg. 100:10
20 g. Carnauba

986 400 g. Cpp pine rosin
100 g. Paraffine
5/24/00 20 g. Mg stearate 100:10
20 g. Carnauba
20 g. Syrian Asphalt

---

987 400 g. Cpp pine rosin
40 g. White Ceresine
5/24/00

988 400 g. Opoponax resin
1/24/00. 60 g. White Ceresine

---

989 400 g. Opoponax resin
1/24/00 60 g. White Ceresine
20 g. Resinate iron

990 400 g. C.P. powd rosin
5/24/00 60 g. White ceresine
20 g. resinate iron
20 g. Stearate zinc 100:15.

991 400 g. C.P. powd rosin
5/24/00 60 g. white ceresine
20 g. resinate iron
20 g. Stearate zinc 100:15
40 g. Carnauba

Too much froth
impossible to mix without

792
100 pts < 400 pts Cuprammonium
120 " Stearate Soda

7/24/00 5 pts Gum Arabic

Not completely dissolved

---

793
100 pts < 400 g Cuprammonium
120 " Stearate Soda
7/4/00 a - 5 " Gum Gedda
b - 10 " "

994
1/24/00

100 pts < 400 g [illegible]
120 g Silicate Soda

a - 5 pts Gum Sandarac

b - 10 " "

---

995
1/24/00

100 pts < 400 g [illegible]
120 g Silicate Soda

5 " Gum Amber

996
5/24/00

100 pts < 400 g Opopanax
120 g Stearate Soda

5 pts Gum Myrrh

997
5/24/00

100 pts < 400 g Opopanax
120 g Stearate Soda

5 pts Gum Ammoniacum

998
7/25/00

100 pts { 400 [illegible]
120 [illegible]

5 .. Gum Euphorbium

very frothy.

---

999
5/25/00

100 pts { 400 [illegible]
120 [illegible]

5 .. Gum Sandarac.

Tor. calcination
pc N-0015-25